

We claim:

1. A process for production of bioactive peptide compositions which comprises:
    - a. treating a protein source with an acid;
    - b. contacting the resulting acid treated protein source with pepsin enzyme derived from fish;
    - c. removing lipids from the pepsin treated acidized protein source;
    - d. removing solids from the pepsin treated source and thereafter;
    - e. recovering the resulting bioactive peptide compositions.
  2. The process of claim 1 wherein said acid is a mineral or organic acid or salts thereof.
  3. The process of claim 2 wherein said mineral acid is selected from the group consisting of hydrochloric, phosphoric and sulphuric acids.
  4. The process of claim 2 wherein said acid is an organic acid selected from the group consisting of formic, acetic, propionic and citric acids.
  5. The process of claim 1 wherein said protein source is fish.
  6. The process of claim 1 wherein said pepsin enzyme is derived from the stomach of Atlantic cod.
  7. The process of claim 1 wherein said contacting with pepsin enzyme is carried out under conditions suitable to effect the formation of bioactive peptides having aromatic amino acids in N-terminal position.
  8. The process of claim 1 wherein step (a) is

carried out at a pH in the range of 2-6, a temperature in the range of 10°C to 60°C and for a time sufficient to effect peptide formation.

9. The bioactive peptide product of the process of claim 1.

10. A process for the production of growth enhancing peptides which comprises enzymatically hydrolyzing a protein source with pepsin source derived from fish at a pH in the range of from about 2 to 6.

11. The process of claim 10 wherein the enzyme hydrolysis of said protein source is carried out under conditions suitable for the production of a mixture of peptides having aromatic amino acids in N-terminal position.

12. The process of claim 11 wherein said aromatic amino acids is at least one of the groups consisting of tyrosine, phenyl alanine and arginine.

13. The process of claim 10 wherein said pepsin enzyme is derived from the stomach of Atlantic cod.

14. The process of claim 13 wherein said enzyme hydrolysis is carried out for a period in the range of 24 to 100 hours.

15. The process of claim 14 wherein said hydrolyzing is carried out at a temperature in the range of from 10°C to 60°C.

16. The process of claim 10 wherein the enzymatic produced peptides are recovered as a product of the process.

17. A bioactive peptide composition consisting

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essentially of a mixture of peptides having an aromatic amino acid in the N-terminal position, produced by enzymatic hydrolysis of a protein source at pH in the range of 1-6 with pepsin derived from fish as the hydrolytic enzyme.

18. The composition of claim 17 wherein said peptide consists of less than about 100 amino acid units and has a molecular weight below 10,000.

19. The composition of claim 17 wherein said aromatic amino acid is at least one acid selected from the group consisting of tyrosine, phenylalanine and arginine.

20. The composition of claim 17 wherein said protein source is fish.

21. The composition of claim 17 wherein said hydrolytic enzyme is derived from the stomach of Atlantic cod.

22. A process for the enhancement of growth of an animal which comprises feeding said animal with an amount sufficient to effect growth of a bioactive peptide composition consisting essentially of a mixture of peptides having an aromatic amino acid in the N-terminal position, produced by enzymatic hydrolysis of a protein source at a pH in the range of 2-6 with pepsin from fish as the hydrolytic enzyme.

23. The process of claim 22 wherein said animal is at least one of the group consisting of warm blooded animals and fish.

24. The process of claim 23 wherein said animal is

a pig.

25. The process of claim 23 wherein said animal is a fish.

26. A feed composition for animals which will enhance the growth thereof, said composition containing therein a bioactive peptide composition consisting essentially of a mixture of peptides having an aromatic amino acid in the N-terminal position, produced by enzymatic hydrolysis of a protein source at a pH in the range of 2-6 with pepsin from fish as the hydrolytic enzyme.

27. The feed composition of claim 26 wherein said bioactive peptide composition is present in an amount in the range of from 0.1 to 5 weight percent.

28. The feed composition of claim 26 wherein said animals are one of the group consisting of warm blooded animals or fish.

29. The feed composition of claim 28 wherein said warm blooded animal is a pig.

30. The feed composition of claim 26 wherein said animal is a fish

31. Use of the bioactive peptide derived from a protein source by the enzymatic hydrolysis thereof with the pepsin enzyme derived for Atlantic cod for the enhancement of growth of a warm blooded animal or fish.

32. The use in accordance with claim 31 wherein the animal or fish is fed from 0.1 to 5 grams of bioactive peptide per kg of body weight.